



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2008-0288; Directorate Identifier 2006-SW-25-AD;**

**Amendment 39-17587; AD 2013-19-05]**

**RIN 2120-AA64**

**Airworthiness Directives; Bell Helicopter Textron, Inc., Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for Bell Helicopter Textron, Inc. (Bell), Model 214B, 214B-1, and 214ST helicopters. This AD requires creating a component history card or equivalent record for certain pylon support spindle assemblies (spindles), establishes a new retirement life for spindles installed on Model 214B and 214B-1 helicopters, reduces the retirement life for spindles installed on Model 214ST helicopters, and requires replacing any spindle that has reached its airworthiness retirement life. This AD was prompted by three in-flight failures of the spindle that resulted in forced landings. The actions of this AD are intended to prevent failure of a spindle and subsequent loss of control of the helicopter.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this AD, contact Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, Texas 76101; telephone (817) 280-3391; fax

(817) 280-6466; or at <http://www.bellcustomer.com/files/>. You may review a copy of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations Office, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Martin Crane, Aviation Safety Engineer, Rotorcraft Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5056; email [7-AVS-ASW-170@faa.gov](mailto:7-AVS-ASW-170@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

On March 13, 2008, at 73 FR 13513, the Federal Register published our notice of proposed rulemaking (NPRM), which proposed to amend 14 CFR part 39 by adding an AD that would apply to Bell Model 214B and 214B-1 helicopters with a certain spindle installed. The NPRM proposed to require creating a component history card or equivalent record for each spindle, inspecting the spindles for any corrosion, or a nick, scratch, dent, or crack, and repairing or replacing any unairworthy spindle before further flight. The

actions proposed in the NPRM were intended to be interim actions until a retirement life for the affected spindles could be developed and new replacement spindles became available. The NPRM was prompted by three in-flight failures of spindles which resulted in forced landings and one serious injury.

On May 28, 2013, at 78 FR 31860, the Federal Register published our supplemental notice of proposed rulemaking (SNPRM), which revised some of the actions of the NPRM. The SNPRM added Bell Model 214ST to the proposed applicability, revised the proposed recording requirements, removed the proposed inspection requirements, established a new proposed retirement life for spindle part number (P/N) 214-030-606-005, reduced the proposed retirement life for spindle P/N 214-030-606-103, and added a proposed requirement to replace any spindle that has exceeded its retirement life. The Model 214ST was added after a crack was reported in a Model 214ST spindle, P/N 214-030-606-103. Bell determined it necessary to establish a retirement life for the spindles because the speed at which a crack can propagate is such that a more frequent inspection interval would not be practical. In addition, the cost of compliance information was updated in the SNPRM by correcting the estimated number of work-hours to replace both spindles, by updating the estimated labor cost per work-hour from \$80 to \$85, and by updating the cost of required parts to current replacement parts cost.

The proposed actions in the SNPRM were intended to prevent failure of a spindle and subsequent loss of control of the helicopter.

## **Comments**

We gave the public the opportunity to comment on the NPRM (73 FR 13513,

March 13, 2008) and the SNPRM (78 FR 31860, May 28, 2013). We received comments to the NPRM which we addressed in the SNPRM. The following presents those comments and the FAA's response to each comment.

### **Request**

Bell stated that results from analysis and review of the pylon spindle assembly, P/N 214-030-606-005, identified the requirement to assign an airworthiness retirement life to that assembly. They also stated that alert service bulletins would detail the retirement life of the spindle. We agreed and revised the SNPRM (78 FR 31860, May 28, 2013) accordingly.

Bell commented that the NPRM (73 FR 13513, March 13, 2008) did not address conversion of torque events to retirement index number (RIN). We agreed and revised the SNPRM accordingly.

Bell also stated that the NPRM mis-identified the visual inspection requirements of using a magnifying glass on each outer radius of the spindle; that this visual inspection requirement is for the main rotor hub spindle, not the transmission spindle. They also stated that once cracks start, they progress very rapidly and visual inspection at a frequency designed to discover cracking would not be manageable. We agreed. With establishment of a maximum airworthiness life limit for the spindle and after further review, we determined that deleting the proposed visual inspections in the NPRM will not impact the overall level of safety.

## **FAA's Determination**

We have reviewed the relevant information, considered the comments received, and determined that an unsafe condition exists and is likely to exist or develop on other products of these same type designs and that air safety and the public interest require adopting the AD requirements as proposed in the SNPRM (78 FR 31860, May 28, 2013).

## **Related Service Information**

We reviewed Bell ASB No. 214-08-70, Revision C, dated April 14, 2009 (214-08-70), which establishes a maximum airworthiness limit of 1,250 hours time-in-service (TIS) or a total accumulated RIN of 20,000, whichever occurs first, for any spindle, P/N 214-030-606-005, that is installed on a Model 214B or Model 214B-1 helicopter. We have also reviewed Bell ASB No. 214ST-08-86, Revision B, dated April 14, 2009, which reduces the maximum airworthiness life limit from 5,000 hours TIS to 2,500 hours TIS or a total accumulated RIN of 50,000, whichever occurs first, for any spindle, P/N 214-030-606-103, that is installed on a Model 214ST helicopter. The ASBs also specify determining the accumulated RIN by calculating a RIN factor of 1 for each lift or takeoff performed during normal operation and of 2 for each lift or takeoff performed during logging operation. When actual lift events are unknown or cannot be determined, both ASBs specify calculating RIN at 30 lift events per flight hour; ASB No. 214-08-70 further specifies calculating flight hours at a rate of 900 hours per year. Both ASBs specify replacing any spindle that has reached its maximum airworthiness limit.

Additionally, we reviewed Bell Information Letter 214ST-12-23, dated January 30, 2012, which was issued to advise owners and operators of the first actual reported crack in a Model 214ST spindle, P/N 214-030-606-103.

### **Differences Between This AD and the Service Information**

The service information specifies, as part of determining the life of a currently installed spindle, accumulating a RIN factor of 2 for each lift or takeoff performed during a logging operation. This AD requires using a RIN factor of 2 for any external load lift or takeoff in which the helicopter achieves a vertical altitude difference of greater than 200 feet indicated altitude between the pick-up and drop-off point. We determined that other external load lift operations with the specified vertical altitude difference or greater will experience the same double torque cycle as in logging operations, and that a RIN factor of 2 needs to be used for those types of operations as well. Also, the service information for Models 214B and 214B-1 specify an initial compliance time of 150 flight hours, while we require an initial compliance time of 50 hours TIS.

### **Costs of Compliance**

We estimate that this AD will affect 12 Model 214B/B-1 and 24 Model 214ST helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this AD. It will take about 1 work-hour for the record keeping requirements of this AD, and about 24 work-hours to replace both spindles. Labor costs are estimated at \$85 per work-hour and the cost of parts will be about \$39,806 for both spindles for a Model 214B or 214B-1, and \$40,802 for both spindles for a Model 214ST. Based on these estimates, for record keeping and the replacement of a pair of spindles, the total per helicopter cost will be \$41,931 for a Model 214B or 214B-1 and \$42,927 for a Model 214ST. The total cost of recordkeeping will be about \$3,060.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2013-19-05 **Bell Helicopter Textron, Inc., Helicopters:** Amendment 39-17587; Docket No. FAA-2008-0288; Directorate Identifier 2006-SW-25-AD.

##### **(a) Applicability**

This AD applies to Bell Helicopter Textron, Inc. (Bell), Model 214B, 214B-1, and 214ST helicopters, with pylon support spindle assembly (spindle), part number (P/N) 214-030-606-005 or -103, installed, certificated in any category.

##### **(b) Unsafe Condition**



This AD defines the unsafe condition as fatigue cracking of a spindle. This condition could result in failure of the spindle and subsequent loss of control of the helicopter.

**(c) Effective Date**

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(d) Compliance**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(e) Required Actions**

(1) Within 50 hours time-in-service (TIS):

(i) Create a component history card or equivalent record for each spindle, P/N 214-030-606-005 and 214-030-606-103, recording the spindle's P/N and serial number.

(ii) Review the helicopter records to determine the hours TIS of each spindle, if the hours TIS are not already recorded for your model helicopter. For each month for which the hours TIS is unknown, record 75 hours TIS.

(iii) Determine the total accumulated retirement index number (RIN) for each spindle. For the purpose of this AD, count 1 RIN for each takeoff and 2 RIN for each external load lift in which the helicopter achieves a vertical altitude difference of greater than 200 feet indicated altitude between the pick-up and drop-off point. For any time period for which the accumulated RIN cannot be determined while the spindle was installed on a helicopter, multiply the hours TIS by 30 to calculate the spindle's accumulated RIN.

(iv) Record the hours TIS and total accumulated RIN for each spindle on the component history card or equivalent record.

(2) Revise the Airworthiness Limitations section of the applicable maintenance manual or Instructions for Continued Airworthiness as follows:

(i) By establishing a new retirement life for the spindle, P/N 214-030-606-005, of 1,250 hours TIS or a total accumulated RIN of 20,000, whichever occurs first.

(ii) By reducing the retirement life for the spindle, P/N 214-030-606-103, from 5,000 hours TIS to 2,500 hours TIS or a total accumulated RIN of 50,000, whichever occurs first.

(3) Replace any spindle, P/N 214-030-606-005, that has been in service for 1,250 or more hours TIS, or a total accumulated RIN of 20,000 or more, whichever occurs first.

(4) Replace any spindle, P/N 214-030-606-103, that has been in service for 2,500 or more hours TIS, or a total accumulated RIN of 50,000 or more, whichever occurs first.

(5) Continue to count and record the accumulated RIN count and hours TIS for each spindle on its component history card or equivalent record.

**(f) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Rotorcraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Martin Crane, Aviation Safety Engineer, Rotorcraft Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5056; email [7-AVS-ASW-170@faa.gov](mailto:7-AVS-ASW-170@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

**(g) Additional Information**

Bell Alert Service Bulletin (ASB) No. 214-08-70, Revision C, dated April 14, 2009; Bell ASB No. 214ST-08-86, Revision B, dated April 14, 2009; and Bell Information Letter 214ST-12-23, dated January 30, 2012, which are not incorporated by reference, contain additional information about the subject of this AD. For service information identified in this AD, contact Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, Texas 76101; telephone (817) 280-3391; fax (817) 280-6466; or at <http://www.bellcustomer.com/files/>. You may review a copy of this service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**(h) Subject**

Joint Aircraft Service Component (JASC) Code: 6330, Transmission Mount.

Issued in Fort Worth, Texas, on September 13, 2013.

Lance T. Gant,

Acting Directorate Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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